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NOTES ON GEOGRAPHIC DISTRIBUTION

Cnemidophorus vacariensis Feltrim and Lema, 2000 (Squamata: Teiidae): A new record for the state of Paraná, southern Brazil

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ABSTRACT: *Cnemidophorus vacariensis* (Teiidae) is endemic to southern Brazil, occurring in the states of Rio Grande do Sul, Santa Catarina and Paraná. In the state of Paraná, this species has only been recorded in the municipality of Candói, central-south region of the state. Herein, a new record of one individual of *C. vacariensis* is reported for the municipality of Tibagi, located in the central-eastern region of Paraná. This record represents the northern limit of distribution of the species.

Cnemidophorus Wagler, 1830 is a genus of teiid lizards, widely distributed in Americas, from the USA, in North America, to Argentina, in southern South America (Reeder *et al*. 2002; Harvey *et al.* 2012). Recently, Harvey *et al.* (2012) proposed changes in teiid taxonomy and created new genera to allocate some *Cnemidophorus* species. Giugliano *et al.* (2013) contested these new taxonomic arrangements, considering them premature (see Giugliano *et al*. 2013). The proposal presented by Giugliano *et al.* (2013) is adopted in this study, maintaining the taxonomic position of the genus *Cnemidophorus* previous to Harvey *et al.* (2012). The *Cnemidophorus lacertoides* group is a species complex currently composed of four species: *Cnemidophorus lacertoides* Duméril and Bibron, 1839, *C. leachei* Peracca, 1897, *C. serranus* Cei and Martori, 1991, and *C. vacariensis* Feltrim and Lema, 2000, distributed through Argentina, southern Brazil and Uruguay (Cei 1993; Feltrim and Lema 2000; Borteiro *et al.* 2013).

Cnemidophorus vacariensis is distinguished from the other species of the *lacertoides* group by presenting dorsal color pattern with longitudinal stripes constituted of light spots, and by presenting the largest number of dorsal scale rows, both in longitudinal and transverse rows (Feltrim and Lema 2000). It is endemic to southern Brazil, occurring in the states of Rio Grande do Sul, Santa Catarina and Paraná (Feltrim and Lema 2000; Di-Bernardo *et al*. 2003; Bérnils *et al*. 2004; Stahnke *et al.* 2006; Ghizoni Jr *et al*. 2009; Caruccio *et al*. 2010). This species inhabits rocky outcrops in high elevation grasslands of the Araucaria Plateau (Di-Bernardo *et al*. 2003; Bérnils *et al*. 2004; Caruccio *et al*. 2010). In the state of Paraná, *C. vacariensis* has been recorded only in the municipality of Candói, central-south region of the state (Bérnils *et al.* 2004). There are also unconfirmed reports of the occurrence of the species around the city of Guarapuava, neighboring municipality of Candói (Bérnils *et al*. 2004; Morato 2010).

During a faunal inventory for the evaluation of environmental impact as part of a project for the energy sector in the municipality of Tibagi, central-eastern region of the state of Paraná, in the *Fazenda Pinheirinhos*, we found one individual of *Cnemidophorus vacariensis* in the afternoon of January 30 2013. This individual was under a stone and, due to absence of collection permits, it could not be collected, and was only recorded by photographs (Figure 1). The identification was carried out at the site and agrees with the original description of the species (Feltrim and Lema 2000). As described, the shields of the head present brown coloration dorsally and, laterally, the lower margin is light; dorsal color brown, with three dorsolateral longitudinal stripes composed by light spots on each side of the body, a paravertebral stripe that began near the postparietal reaching the tail, and two other stripes that begin behind the eyes and continue along the limbs; between these stripes, are irregular dark brown blotches; vertebral region is light brown, bounded by small light blotches; the dorsal of the anterior and posterior limbs is brown with three stripes composed of light spots, with dark brown blotches between them; tail dorsally brown with small light and dark brown spots.

The site of this record is characterized by open environment with presence of grasses, shrubs and many rocky outcrops (24°38'04''S, 50°13'50''W; 1180m elevation; Figure 2). Although preserved, the area is used for cattle ranching, with the presence of many animals.

FIGURE 1. Living adult specimen of *Cnemidophorus vacariensis* found in the municipality of Tibagi, state of Paraná, southern Brazil.

Figure 2. Site of the record of *Cnemidophorus vacariensis* in Fazenda Pinheirinhos, municipality of Tibagi, state of Paraná, southern Brazil.

Cnemidophorus vacariensis is threatened of extinction in the three states where it occurs, and also at a national level (Di-Bernardo *et al*. 2003; Bérnils *et al*. 2004; Martins and Molina 2008; CONSEMA 2011). In the state of Paraná, and in Brazil, this species has been categorized as "Vulnerable" (Bérnils *et al*. 2004; Martins and Molina 2008). Among the main threats to *C. vacariensis* are agricultural expansion, cattle ranching, the use of fire in the preparation of pastures, and the planting of exotic species (Bérnils *et al.* 2004; Morato 2010). Due to its distribution not yet being completely known, and to threats to its natural environment, *C. vacariensis* has been assessed as "Data Deficient" at a global level (Morato 2010).

Both sites where *Cnemidophorus vacariensis* has been found in the state of Paraná are dominated by monoculture plantations or cattle ranching. However, the *Fazenda Pinheirinhos* is a few miles from the *Parque Estadual do Guartelá*, a conservation unit that presents a similar natural physiognomy to the area, with a predominance of grasslands with many rocky outcrops. Likewise, the Candói site is near the *Parque Estadual de Santa Clara*, which also presents environments favorable for the occurrence of the species. The presence of *C. vacariensis* in those conservation units can be expected, as well as in other areas of the state, near or between the municipalities of Tibagi and Candói, demonstrating the need for more studies in the region. The present record represents the second site of occurrence of *Cnemidophorus vacariensis* in Paraná, extending the known geographic distribution of this species *ca*. 200 km northeast from the closest reported site, and also represents the northernmost limit of distribution of the species (Figure 3).

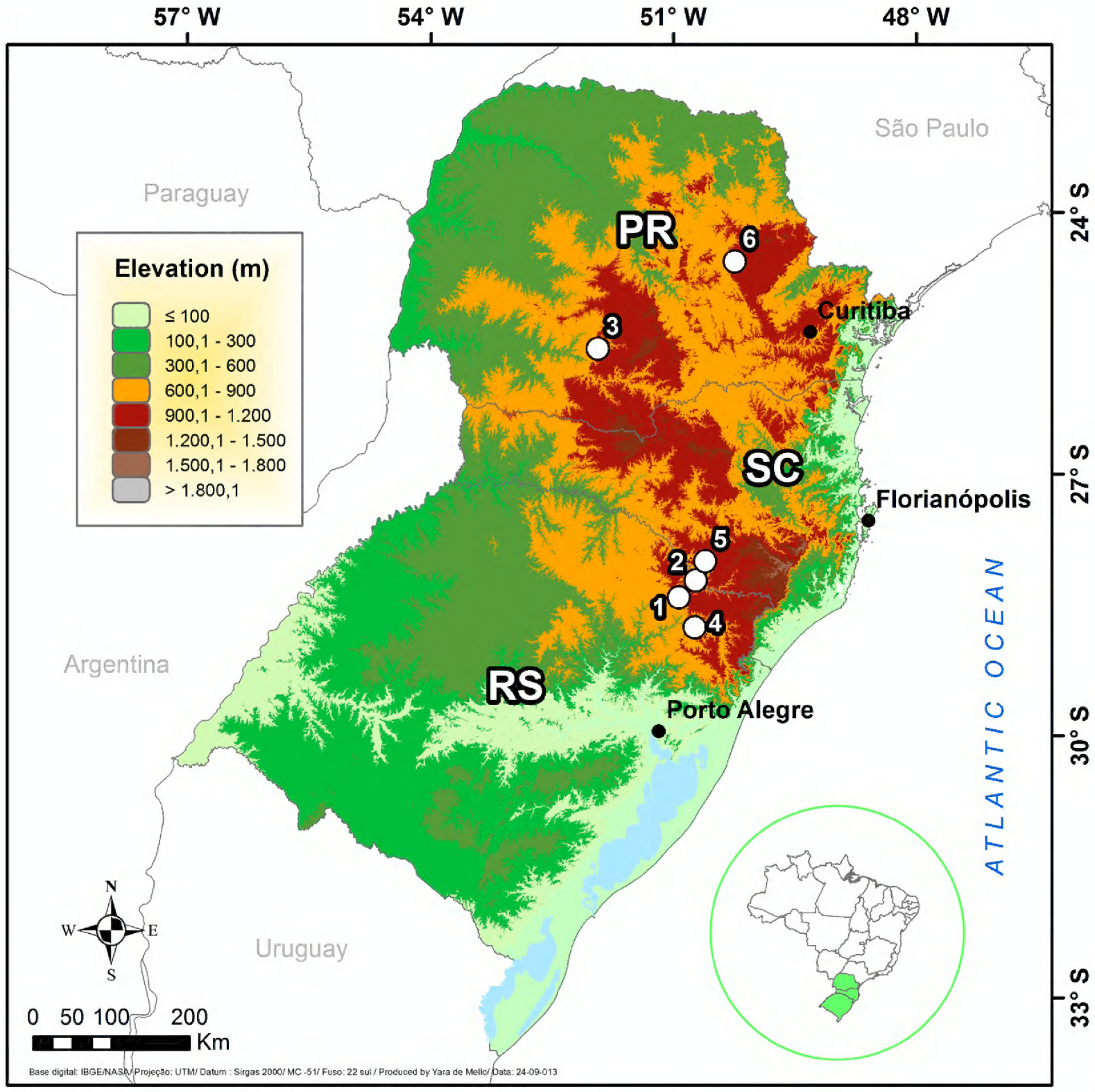

Figure 3. Geographic distribution of *Cnemidophorus vacariensis*: 1. Vacaria (Feltrim and Lema 2000), 2. Bom Jesus (Di-Bernardo *et al.* 2003; Caruccio *et al.* 2010), in the state of Rio Grande do Sul (RS); 3. Candói (Bérnils *et al.* 2004), in the state of Paraná (PR); 4. São Francisco de Paula (Stahnke *et al.* 2006), in the state of Rio Grande do Sul (RS); 5. Capão Alto (Ghizoni Jr *et al.* 2009), in the state of Santa Catarina (SC); 6. Tibagi (present study), in the state of Paraná (PR).

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